

## APPENDIX A

## LIST OF PLEADINGS

The following documents were filed in response to the *Notice of Proposed Rulemaking*:

Amendments to Parts 1, 2 and 101 of the Commission's Rules to License Fixed Services at 24 GHz, *Notice of Proposed Rulemaking*, WT Docket No. 99-327, 14 FCC Rcd. 19263.

**LIST OF PARTIES RESPONDING TO NOTICE OF PROPOSED RULEMAKING****Comments**

Comsearch  
DIRECTV Enterprises, Inc. (DIRECTV)  
Ensemble Communications, Inc. (Ensemble)  
Fixed Wireless Communications Coalition (FWCC)  
Nortel Networks, Inc. (Nortel)  
Office of Advocacy, U.S. Small Business Administration (SBA)  
Personal Communications Industry Association (PCIA)  
Rural Telecommunications Group (RTG)  
Teligent, Inc. (Teligent)  
Wireless One Holding Company (Wireless One)

**Reply Comments**

Teligent, Inc. (Teligent)  
National Telephone Cooperative Association (NTCA)

**APPENDIX B****FINAL REGULATORY FLEXIBILITY ANALYSIS**

As required by the Regulatory Flexibility Act ("RFA"),<sup>1</sup> an Initial Regulatory Flexibility Analysis ("IRFA") was incorporated in Appendix A of the *Notice of Proposed Rulemaking (NPRM)* issued in this proceeding.<sup>2</sup> The Commission sought written public comment on the proposals in the *NPRM*, including comment on the IRFA. No comments were filed in direct response to the IRFA. This Final Regulatory Flexibility Analysis ("FRFA") conforms to the RFA.<sup>3</sup>

**I. Need for, and Objectives of, the Report and Order**

1. In the *Report and Order* we adopt rules for licensing and operation of the 24.25-24.45 GHz and 25.05-25.25 GHz bands. In addition, the Commission adopts competitive bidding rules to select among new licensees for this band. We amend Parts 1, 2, 87 and 101 of the Commission's Rules and expect such amendments to promote the effective use of the 24 GHz band and to accommodate deployment of point-to-point, point-to-multipoint, and multipoint-to-multipoint fixed wireless technology at 24 GHz. The rule changes we adopt today establish a flexible regulatory and licensing framework, which will enhance opportunities to provide a broadband wireless service, foster effective competition, and further our efforts for consistent rule application regarding broadband wireless services.

**II. Summary of Significant Issues Raised by the Public Comments in Response to the IRFA**

2. No comments were filed in direct response to the IRFA. However, as described in Section V, we have taken into account all comments submitted generally by small entities.

**III. Description and Estimate of the Number of Small Entities to Which the Rules Will Apply**

3. The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.<sup>4</sup> The RFA defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."<sup>5</sup> In addition, the term "small business" has the same meaning as the

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<sup>1</sup> See 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601 *et. seq.*, has been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

<sup>2</sup> See Amendment to Parts 1, 2, and 101 of the Commission's Rules To License Fixed Services at 24 GHz, WT Docket 99-327, *Notice of Proposed Rulemaking*, 14 FCC Rcd 19263, 19292 (2000) (*NPRM*).

<sup>3</sup> See 5 U.S.C. § 604.

<sup>4</sup> 5 U.S.C. § 603(b)(3).

<sup>5</sup> See 5 U.S.C. § 601(6).

term "small business concern" under the Small Business Act.<sup>6</sup> A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).<sup>7</sup> A small organization is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."<sup>8</sup> Nationwide, as of 1992, there were approximately 275,801 small organizations.<sup>9</sup> "Small governmental jurisdiction" generally means "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than 50,000."<sup>10</sup> As of 1992, there were approximately 85,006 such jurisdictions in the United States.<sup>11</sup> This number includes 38,978 counties, cities, and towns; of these, 37,566, or ninety-six percent, have populations of fewer than 50,000.<sup>12</sup> The Census Bureau estimates that this ratio is approximately accurate for all governmental entities. Thus, of the 85,006 governmental entities, we estimate that 81,600 (ninety-one percent) are small entities.

4. *Incumbent Licensees.* The rules we are adopting today will affect incumbent licensees who were relocated to the 24 GHz band from the 18 GHz band, and applicants who wish to provide services in the 24 GHz band. The Commission has not developed a definition of small entities applicable to licensees in the 24 GHz band. Therefore, the applicable definition of small entity is the definition under the SBA rules for the radiotelephone industry that provides that a small entity is a radiotelephone company employing fewer than 1,500 persons.<sup>13</sup> The 1992 Census of Transportation, Communications, and Utilities, conducted by the Bureau of the Census, which is the most recent information available, shows that only 12 radiotelephone firms out of a total of 1,178 such firms that operated during 1992 had 1,000 or more employees.<sup>14</sup> This information notwithstanding, we believe that there are only two licensees in the 24 GHz band that were relocated from the 18 GHz band, Teligent and TRW, Inc. It is our understanding that Teligent and its related companies have less than 1,500 employees, though this may

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<sup>6</sup> 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register." 5 U.S.C. § 601(3).

<sup>7</sup> Small Business Act, 15 U.S.C. § 632 (1996).

<sup>8</sup> 5 U.S.C. § 601(4).

<sup>9</sup> 1992 Economic Census, U.S. Bureau of the Census, Table 6 (special tabulation of data under contract to Office of Advocacy of the SBA).

<sup>10</sup> 5 U.S.C. § 601(5).

<sup>11</sup> U.S. Dept. of Commerce, Bureau of the Census, "1992 Census of Governments."

<sup>12</sup> *Id.*

<sup>13</sup> See 13 C.F.R. § 121.201, Standard Industrial Classification (SIC) Code 4812.

<sup>14</sup> U.S. Bureau of the Census, U.S. Department of Commerce, 1992 Census of Transportation, Communications, and Utilities, UC92-S-1, Subject Series, Establishment and Firm Size, Table 5, Employment Size of Firms: 1992, SIC Code 4812 (issued May 1995).

change in the future. However, TRW is not a small entity. Therefore, only one incumbent licensee in the 24 GHz band is a small business entity.<sup>15</sup>

5. *New Licensees.* The proposals also affect potential new licensees on the 24 GHz band. Pursuant to 47 C.F.R. § 24.720(b), the Commission has defined "small business" for Blocks C and F broadband PCS licensees as firms that had average gross revenues of less than \$40 million in the three previous calendar years. This regulation defining "small business" in the context of broadband PCS auctions has been approved by the SBA.<sup>16</sup> With respect to new applicants in the 24 GHz band, we shall use this definition of "small business" and apply it to the 24 GHz band under the name "entrepreneur." With regard to "small business," we shall adopt the definition of "very small business" used for 39 GHz licenses and PCS C and F block licenses: businesses with average annual gross revenues for the three preceding years not in excess of \$15 million. Finally, "very small business" in the 24 GHz band shall be defined as an entity with average gross revenues not to exceed \$3 million for the preceding three years.

6. The Commission will not know how many licensees will be small or very small businesses until the auction, if required, is held. Even after that, the Commission will not know how many licensees will partition their license areas or disaggregate their spectrum blocks, if partitioning and disaggregation are allowed.

#### **IV. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements**

7. This *Report and Order* adopts rules that will entail reporting, recordkeeping, and/or third-party consultation. However, the Commission believes that these requirements are the minimum needed. By this *Report and Order*, we require licensees to notify the Commission within 30 days of a change in regulatory status between common carrier and/or non-common carrier. We also require licensees to substantiate their renewal expectancies with information demonstrating substantial service. In addition, because we consider partitioning and disaggregation to be a form of license assignment, we require such action to receive Commission approval via application for assignment on FCC Form 603. With regard to alien ownership, we require licensees to amend their FCC Form 602 to reflect any changes in foreign ownership information, together with the initial information required by FCC Form 601.

#### **V. Steps Taken To Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered**

8. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives: (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.<sup>17</sup>

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<sup>15</sup> Teligent has acquired the DEMS licenses of FirstMark, the only other licensee in the 24 GHz band whose license has been modified to require relocation to the 24 GHz band.

<sup>16</sup> See Implementation of Section 309(j) of the Communications Act — Competitive Bidding, *Fifth Report and Order*, 9 FCC Red 5532, 5581-82 ¶ 115 (1994).

<sup>17</sup> See 5 U.S.C. § 603.

9. *Geographic Area Licensing.* In the *NPRM*, we noted that the Commission originally used Standard Metropolitan Statistical Areas (SMSA) to license the DEMS service, which failed to include rural communities because SMSAs are too large. We then proposed to reduce the licensing service area in order to: (1) include rural communities; (2) maximize the opportunities for the dissemination of 24 GHz licenses among a wide array of entities; and (3) facilitate efficient use of this spectrum. While adopting Economic Areas (EAs) in this *Report and Order*, we cite to our experience with the 39 GHz auction in which the majority of small, very small and rural qualified bidders won licenses.<sup>18</sup> We also note that our decision to offer flexible partitioning and disaggregation/aggregation will speed service to rural areas and encourage the participation of smaller entities at auction.<sup>19</sup> In addition, we adopt flexible bidding credits for smaller entities, while noting that small entities may further form bidding consortiums to prevail at auction.<sup>20</sup> In sum, we believe that adopting EAs for licensing this service will serve the public interest best, in light of the overall changes we are making here to specifically benefit small entities.

10. *Changes in Regulatory Status.* In this *Report and Order*, we authorize 24 GHz licensees to provide common carrier service, non-common carrier service, or both under a single license. We also adopt our proposal in the *NPRM* to require licensees to notify us within 30 days of such a change in regulatory status. However, we minimize the reporting burden by declining to require licensees to obtain Commission authorization prior to a change in regulatory status. In addition, we decline to require that the licensees detail the specific services they seek to provide. This is consistent with our streamlined application process, and it serves to simplify the reporting requirements for small entities.<sup>21</sup>

11. *Renewal Expectancy.* In this *Report and Order*, we adopt a ten-year license term in conjunction with a renewal expectancy based on substantial service. In order to demonstrate substantial service, licensees must provide the Commission with a description of geographic coverage and population served or links installed, and a description of how the service complies with the substantial service requirement. In addition, licensees must submit copies of any violations or proceedings that relate to their renewal expectancy. While taking into account this burden on small entities, we note that such recordkeeping ensures that the 24 GHz band is not "warehoused" or abused to the preclusion of small business opportunities. In this context, we also note that we declined here to adopt a license term in excess of ten years, in order to afford more opportunities for entities, including small businesses, to capture licenses that fail to meet substantial service.

12. *Aggregation, Disaggregation and Partitioning.* In order to overcome entry barriers for smaller entities, we adopt here flexible partitioning and disaggregation rules. Parties to partitioning and disaggregation agreements may negotiate whether one party or both will be responsible for demonstrating fulfillment of pertaining construction requirements. Parties may also combine partitioning and disaggregation agreements. Any such agreements are treated, however, as a form of license assignment and therefore require Commission approval via filing FCC Form 603. Licensees who received bidding credits at auction and who subsequently partition or disaggregate are also subject to the unjust enrichment

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<sup>18</sup> See *supra* Section IV.A.2 ¶ 12 (only four such bidders lost, out of twenty-eight).

<sup>19</sup> *Id.* at ¶ 14, 15.

<sup>20</sup> *Id.* at ¶ 17.

<sup>21</sup> We do note, however, that some changes may be substantial enough to require application under separate part provisions for both incumbents and new licensees (*i.e.*, discontinuance, reduction or impairment of existing service, environmental impact, quiet zones, antenna structure requirements, international borders, and technical rules under Part 101). See *supra* Section IV.B.1 ¶¶ 28, 29.

provision contained in our Rules.<sup>22</sup> We believe that these recordkeeping and unjust enrichment restrictions are the minimum needed, when weighed against the significant benefits to small entities that result from the flexible approach we are adopting here.

13. *Foreign Ownership Restrictions.* In order to supervise effectively the compliance of 24 GHz licensees with regard to our alien ownership restrictions,<sup>23</sup> we require both common carrier and non-common carrier licensees in the 24 GHz band to provide the alien ownership information requested in FCC Form 601, as well as amendments in FCC Form 602 to reflect any changes in foreign ownership information. This enforcement is a mutual benefit to all licensees and a minimal reporting burden.

14. *Competitive Bidding Procedures.* In the *Report and Order*, we adopt a ten-day period for filing petitions to deny long-form applications. We decline to adopt a five-day period in order to give small businesses more flexibility in challenging license awards. We also adopt a third level of small business bidding credits in addition to those proposed in the *NPRM*, in respect of the fact that the capital costs of operating facilities in the 24 GHz band will vary widely.<sup>24</sup> Finally, we adopt attribution rules based on a "controlling interest" standard to determine eligibility for our small business provisions. We believe these rules, along with our affiliation rules, will prevent larger firms from illegitimately seeking status as a small business. All of these decisions regarding competitive bidding procedures will work to the benefit of small entities.

**Report to Congress:** The Commission will send a copy of this *Report and Order*, including this FRFA, in a report to be sent to Congress pursuant to SBREFA, 5 U.S.C. § 801(a)(1)(A). In addition, the Commission will send a copy of the *Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the Small Business Administration. A copy of the *Report and Order* and this FRFA (or summaries thereof) will also be published in the Federal Register. See 5 U.S.C. § 604(b).

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<sup>22</sup> 47 C.F.R. § 1.2111(e).

<sup>23</sup> See 47 C.F.R. § 101.7.

<sup>24</sup> We proposed a 15 percent bidding credit for small businesses, and a 25 percent bidding credit for very small businesses. See *NPRM*, 14 FCC Rcd at 19287, 19288 ¶¶ 48, 49. However, we are adopting bidding credits of 15, 25, and 35 percent for three categories of small businesses. See *supra* Section IV.D.3.a ¶ 76.

## APPENDIX C

### FINAL RULES FOR REPORT AND ORDER

Parts 1, 2, 87, and 101 of Title 47 of the Code of Federal Regulations are amended as follows:

#### PART 1 — PRACTICE AND PROCEDURE

1. The authority citation for Part 1 continues to read as follows:

AUTHORITY: 47 U.S.C. sections 151, 154, 303, and 309(j) unless otherwise noted.

2. The entry in the Table in Section 1.1307(b)(1) for Local Multipoint Distribution Service is amended to add "24 GHz Service" after every occurrence of LMDS, to read as follows:

**§ 1.1307 Actions which may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.**

\* \* \* \* \*

(b) \* \* \*

(1) \* \* \*

**TABLE 1 — TRANSMITTERS, FACILITIES AND OPERATIONS SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION**

Service (title 47 CFR rule part)	Evaluation required if:
* * *	* * *
Local Multipoint Distribution Service (subpart L of part 101) and 24 GHz (subpart G of part 101).	<p><i>Non-building-mounted antennas:</i> height above ground level to lowest point of antenna &lt; 10 m <i>and</i> power &gt; 1640 W EIRP</p> <p><i>Building-mounted antennas:</i> power &gt; 1640 W EIRP</p> <p>LMDS and 24 GHz Service licensees are required to attach a label to subscriber transceiver antennas that:</p> <p>(1) provides adequate notice regarding potential radiofrequency safety hazards, e.g., information regarding the safe minimum separation distance required between users and transceiver antennas; and</p> <p>(2) references the applicable FCC-adopted limits for radio-frequency exposure specified in § 1.1310 of this chapter</p>

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#### PART 2 — FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

3. The authority citation for Part 2 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 302, 303, 307, 336, and 337, unless otherwise noted.

4. Section 2.106, the Table of Frequency Allocations, is amended by revising pages 71 and 72 of the Table.

The revisions read as follows:

## § 2.106 Table of Frequency Allocations.

\* \* \* \* \*

22.5-27.5 GHz (SHF)					Page 71
International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
22.5-22.55 FIXED MOBILE			22.5-22.55 FIXED MOBILE  US211		
22.55-23.55 FIXED INTER-SATELLITE MOBILE  S5.149			22.55-23.55 FIXED INTER-SATELLITE MOBILE  S5.149 US278		Satellite Communications (25) Fixed Microwave (101)
23.55-23.6 FIXED MOBILE			23.55-23.6 FIXED MOBILE		Fixed Microwave (101)
23.6-24 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)  S5.340			23.6-24 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY US74 SPACE RESEARCH (passive)  US246		
24-24.05 AMATEUR AMATEUR-SATELLITE  S5.150			24-24.05   S5.150 US211	24-24.05 AMATEUR AMATEUR-SATELLITE  S5.150 US211	ISM Equipment (18) Amateur (97)
24.05-24.25 RADIOLOCATION Amateur Earth exploration-satellite (active)  S5.150			24.05-24.25 RADIOLOCATION US110 G59 Earth exploration-satellite (active)  S5.150	24.05-24.25 Radiolocation US110 Amateur Earth exploration-satellite (active)  S5.150	ISM Equipment (18) Private Land Mobile (90) Amateur (97)
24.25-24.45 FIXED	24.25-24.45 RADIONAVIGATION	24.25-24.45 RADIONAVIGATION FIXED MOBILE	24.25-24.45	24.25-24.45 FIXED	Fixed Microwave (101)



24.45-24.75 FIXED INTER-SATELLITE	24.45-24.65 INTER-SATELLITE RADIONAVIGATION  S5.533	24.45-24.65 FIXED INTER-SATELLITE MOBILE RADIONAVIGATION  S5.533	24.45-24.65 INTER-SATELLITE RADIONAVIGATION  S5.533		Satellite Communications (25)
	24.65-24.75 INTER-SATELLITE RADIOLOCATION-SAT- ELLITE (Earth-to-space)	24.65-24.75 FIXED INTER-SATELLITE MOBILE  S5.533 S5.534	24.65-24.75 INTER-SATELLITE RADIOLOCATION-SATELLITE (Earth-to-space)		
24.75-25.25 FIXED	24.75-25.25 FIXED-SATELLITE (Earth-to-space) S5.535	24.75-25.25 FIXED FIXED-SATELLITE (Earth-to-space) S5.535 MOBILE	24.75-25.05 RADIONAVIGATION	24.75-25.05 FIXED-SATELLITE (Earth-to-space) NG167 RADIONAVIGATION	Satellite Communications (25) Aviation (87)
		S5.534	25.05-25.25	25.05-25.25 FIXED SATELLITE (Earth-to-space) NG167 FIXED	Satellite Communications (25) Fixed Microwave (101)
25.25-25.5 FIXED INTER-SATELLITE S5.536 MOBILE Standard frequency and time signal-satellite (Earth-to-space)			25.25-25.5 FIXED MOBILE Standard frequency and time signal-satellite (Earth-to- space)	25.25-27 Standard frequency and time signal-satellite (Earth- to-space) Earth exploration-satellite (space-to-space)	Note: In its <i>Manual</i> , NTIA has added a primary inter-satellite service allocation to the band 25.25-27.5 GHz, limited the use of this allocation by adopting footnote S5.536, and has changed the directional indicator for the Earth exploration satellite service allocation in the band 25.5-27 GHz from space-to-space to space-to-Earth.
25.5-27 EARTH EXPLORATION-SATELLITE (space-to-Earth) S5.536A S5.536B FIXED INTER-SATELLITE S5.536 MOBILE Standard frequency and time signal-satellite (Earth-to-space)			25.5-27 FIXED MOBILE Standard frequency and time signal-satellite (Earth-to- space) Earth exploration-satellite (space-to-space)		
27-27.5 FIXED INTER-SATELLITE S5.536 MOBILE	27-27.5 FIXED FIXED-SATELLITE (Earth-to-space) INTER-SATELLITE S5.536 S5.537 MOBILE		27-27.5 FIXED MOBILE	27-27.5 Earth exploration-satellite (space-to-space)	

**PART 87 — AVIATION SERVICES**

5. Section 87.173(b), the Frequency Table, is amended as follows:

- Revise the radionavigation entry from 24,250-25,250 MHz to 24,750-25,050 MHz.

**PART 101 — FIXED MICROWAVE SERVICES**

6. The authority citation for Part 101 continues to read as follows:

AUTHORITY: 47 U.S.C. §§ 154, 303, 309(j), unless otherwise noted.

7. The subpart G in the table of contents is amended to read as follows:

**24 GHz Service and Digital Electronic Message Service**

8. Section 101.1 is amended by inserting the words "24 GHz Service" between the words "carrier" and "and" in subsection 101.1(b).

9. Section 101.3 is amended by adding a definition of 24 GHz Service and by changing the definition of Digital Electronic Message Service to read as follows:

**§ 101.3 Definitions**

As used in this part:

\* \* \*

*Digital Electronic Message Service.* A two-way end-to-end fixed radio service utilizing digital termination systems for the exchange of digital information in the frequency bands 10,550-10,680 MHz, 18,820-18,920 MHz, and 19,160-19,260 MHz. This service may also make use of point-to-point microwave facilities, satellite facilities or other communications media to interconnect digital termination systems to comprise a network.

\* \* \*

*Nodal station.* The central or controlling stations in a microwave radio system operating on point-to-multipoint or multipoint-to-multipoint frequencies with one or more user stations or internodal links.

\* \* \*

*24 GHz Service.* A fixed point-to-point, point-to-multipoint, and multipoint-to-multipoint radio system in the 24.25-24.45 GHz band and in the 25.05-25.25 GHz band consisting of a fixed main (nodal) station and a number of fixed user terminals. This service may encompass any digital fixed service.

\* \* \*

*User or subscriber station.* The station(s) in a microwave radio system operating at the users' premises on point-to-multipoint or multipoint-to-multipoint frequencies and communicating with one or more nodal stations.

\* \* \* \* \*

10. Section 101.21 is amended by inserting the words "and 24 GHz Service" after the words "Local Multipoint Distribution Service" in subsection 101.21(g).

11. Section 101.21 is amended by inserting the words "and 24 GHz Service" after the words "Local Multipoint Distribution Service" in subsection 101.21(g).

12. Section 101.45 is amended by adding the words "and in the 24 GHz Service" after the words "Local Multipoint Distribution Service" in subsection 101.45(b).

13. Section 101.61 is amended by adding the words "and in the 24 GHz Service" to the heading and by inserting, at the end of the section, the sentence: "This section also applies to 24 GHz licensees that are licensed according to Economic Areas."

14. Section 101.63 is amended by inserting the words "and in the 24 GHz Service" after the words "Local Multipoint Distribution Service" in subsection 101.63(a).

15. Section 101.101 is amended by changing the entry for 24,250-25,250 MHz in the table to read as follows:

**§ 101.101 Frequency availability.**

Frequency band (MHz)	Radio service				Notes
	Common carrier (Part 101)	Private radio (Part 101)	Broadcast auxiliary (Part 74)	Other (Parts 15, 21, 22, 24, 25, 74, 78 & 100)	
* * * 24,250-25,250 * * *	CC	OFS			

\* \* \* \* \*

16. Section 101.105 is amended by deleting the words "and all point-to-multipoint channels in the 18 GHz band" after the words "in the 10.6 GHz band" in subsection 101.105(c)(6).

17. Section 101.109(c) is amended by adding footnote 7 to the bandwidth entry for 24, 250-25,250 MHz and by revising footnote 7 to read as follows:

Frequency band (MHz)	Maximum authorized bandwidth
***	***
24,250 to 25,250	40 MHz <sup>7</sup>
***	***

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<sup>7</sup>For channel block assignments in the 24,250-25,250 MHz and 38,600-40,000 MHz bands, the authorized bandwidth is equivalent to an unpaired channel block assignment or to either half of a symmetrical paired channel block assignment. When adjacent channels are aggregated, equipment is permitted to operate over the full channel block aggregation without restriction.

**Note to Footnote 7:** Unwanted emissions shall be suppressed at the aggregate channel block edges based on the same roll-off rate as is specified for a single channel block in paragraph 101.111(a)(1) or in paragraphs 101.111(a)(2)(ii) and (iii) of this chapter as appropriate.

18. Section 101.111 is amended to add a new Section 101.111(a)(2)(iv) and to replace the paragraph in 101.111(a)(4) to read as follows:

#### § 101.111 Emission Limitations.

\*\*\*\*\*

(a)(2)(iv) The emission mask for 24 GHz Service used the equation in section (a)(2)(ii) above and applies only to the edge of each channel, but not to subchannels established by licensees. The value of P in the equation is for the percentage removed from the carrier frequency and assumes that the carrier frequency is the center of the actual bandwidth used. The emission mask can be satisfied by locating a carrier of the subchannel sufficiently far from the channel edges so that the emission levels of the mask are satisfied. The 24 GHz emission mask shall use a value B (bandwidth) of 40 MHz, for all cases even in the case where a narrower subchannel is used (for instance the actual bandwidth is 10 MHz) and the mean output power used in the calculation is the sum of the output power of a fully populated channel.

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(a)(4) For DEMS channels in the 17,700-19,700 MHz band:

(i) \*\*\*

\*\*\*\*\*

19. Section 101.115 is amended by revising the entries for "24,250 to 25,250" and footnote 10 to the Antenna Standards table in section 101.115(c) to read as follows:

#### § 101.115 Directional antennas.

\*\*\*\*\*

(c) \* \* \*

## Antenna Standards

Frequency (MHz)	Category	Maximum beamwidth to 3 dB points <sup>1</sup> (included angle in degrees)	Minimum antenna gain (dbi)	Minimum radiation suppression to angle in degrees from center line of main beam in decibels						
				5° to 10°	10° to 15°	15° to 20°	20° to 30°	30° to 100°	100° to 140°	140° to 180°
24.250 to 25.250 <sup>10</sup>	A	2.8	38	25	29	33	36	42	55	60
	B	2.8	38	20	24	28	32	35	36	45

\* \* \*

<sup>10</sup>DEMS User Station antennas in this band must meet performance Standard B and have a minimum antenna gain of 34 dBi. The maximum beamwidth requirement does not apply to DEMS User Stations. DEMS Nodal Stations need not comply with these standards. Stations authorized to operate in the 24.250-25.250 MHz band do not have to meet these standards, however, the Commission may require the use of higher performance antennas where interference problems can be resolved by the use of such antennas.

\* \* \* \* \*

20. Section 101.139 is amended to add a new Section 101.139(g) to read as follows:

\* \* \* \* \*

(g) After January 1, 2001, a transmitter operating on the 24.250 - 24.450 MHz and 25.050 - 25.250 MHz bands must meet the emission limitation set forth in § 101.111(a)(2)(ii).

21. Section 101.141 is amended by deleting the phrase "and in the 24.25-25.25 GHz band" in the introductory paragraph.

22. Section 101.147 is amended by revising the first sentence of the introductory paragraph of Section 101.147(r) by adding the words: "except 24 GHz band licensees" after the word "Applicants". Section 101.147(r)(9) is amended by renumbering the introduction as "§ 101.147(r)(9)(i)" and by renumbering existing "§§ 101.147(r)(9) (i) and (ii)" as "§§ 101.147(r)(9)(i)(A) and (B)," respectively, and Section 101.147(r)(9) is also amended by adding a new "§ 101.147(r)(9)(ii)" (immediately preceding § 101.147(r)(10)) to read as follows:

**§ 101.147 Frequency assignments.**

\* \* \* \* \*

(r) 17,700 to 19,700 MHz and 24,250 to 25,250 MHz. Applicants, except 24 GHz band licensees, may use \* \* \*

\* \* \*

(r)(9)(i) The following frequencies are available for point-to-multipoint DEMS Systems, except that channels 35-39 were available only to existing 18 GHz DEMS licensee as of March 14, 1997 and are now available by geographic area licensing in the 24 GHz Service to be used as the licensee desires. The 24 GHz spectrum can be aggregated or disaggregated and does not have to be used in the transmit/receive manner shown except to comply with international agreements along the US borders. Systems operating on Channels 25-34 must cease operations as of January 1, 2001, except that those stations on these channels within 150 km of the coordinates 38° 48' N/ 76° 52' W (Washington, DC, area) and 39° 43' N/ 101° 46' W (Denver, Colorado area) must cease operations of June 5, 1997:

\* \* \*

(A) Each station on channels 25 - 34 will be limited to one frequency pair per SMSA. Additional channel pairs may be assigned upon a showing that the service to be provided will fully utilize the spectrum requested. A channel pair may be subdivided as desired by the licensee.

(B) A frequency pair on channels 25 - 34 may be assigned to more than one licensee in the same SMSA or service area so long as the interference protection criteria of § 101.105 are met.

(ii) Channels 35 - 39 are licensed in the 24 GHz Service by Economic Areas for any digital fixed service. Channels may be used at either nodal or subscriber station locations for transmit or receive but must be coordinated with adjacent channel and adjacent area users in accordance with the provisions of Section 101.509. Stations must also comply with international coordination agreements.

23. Section 101.305(a) is revised by deleting the word "and" and adding a comma after the words "Common Carrier Services" and adding the words: "or 24 GHz Service" after the words "Local Multipoint Distribution Service." Section 101.305(b) is revised by adding the words: "and 24 GHz Service" after the words "Local Multipoint Distribution Service." Section 101.305(c) is revised by adding the words: "and 24 GHz Service" after the words "Local Multipoint Distribution Service."

24. Section 101.311 is amended by inserting the words "and 24 GHz Service" after the words "Local Multipoint Distribution Service".

25. Subpart G is amended to read as follows:

#### **24 GHz Service and Digital Electronic Message Service**

26. Section 101.501 is amended to read as follows:

#### **§ 101.501 Eligibility.**

See § 101.147(n) for licensing of DEMS facilities in the 10.6 GHz band. Applications for new facilities using the 18 GHz band are no longer being accepted. Any entity, other than one precluded by § 101.7 of this part, is eligible for authorization to provide 24 GHz Service under this subpart.

27. Section 101.503 is amended by adding the words "10.6 GHz" before the word "DEMS" wherever it appears.

28. Section 101.505 is amended by replacing the words "§ 101.147(r)(9)" with "§§ 101.147(m), (n), and (r)(9)."

29. Section 101.509 is amended to read as follows:

**§ 101.509 Interference Protection Criteria.**

As a condition for use of frequencies in this service each licensee is required to:

(1) Engineer the system to be reasonably compatible with adjacent and co-channel operations in the same or adjacent areas on all frequencies; and

(2) Cooperate fully and in good faith to resolve whatever potential interference and transmission security problems may be present in adjacent and co-channel operations.

All harmful interference to other users of co-channel and adjacent channel use in the same or adjacent geographical area are prohibited. In areas where Economic Areas are in close proximity, careful consideration should be given to minimum power requirements and to the location, height, and radiation pattern of the transmitting and receiving antennas. Licensees are expected to cooperate fully in attempting to resolve problems of potential interference before bringing the matter to the attention of the Commission.

Licensee shall coordinate their facilities whenever the facilities have optical line-of-sight into other licensees' areas or are within the same geographic area. Licensees are encouraged to develop operational agreements with relevant licensees in the same or adjacent areas. Incumbent SMSA licensee(s) shall retain exclusive rights to its channel(s) within its SMSA and must be protected. Licensees shall comply with the appropriate coordination agreements between the United States and Canada and the United States and Mexico concerning cross-border sharing and use of the 24 GHz bands which may require using channels pairs in accordance with the table in Section 101.147(r)(9).

The Commission recommends that coordination is not necessary if the power flux density (pfd) at the boundary of the relevant adjacent area is lower than  $-114 \text{ dBW/m}^2$  in any 1 MHz. This value can be changed and agreed upon by both coordinating parties. Licensees should be able to deploy with a pfd up to  $-94 \text{ dBW/m}^2$  in any 1 MHz at the boundary of the relevant adjacent area without negatively affecting the successful operations of the adjacent area licensee.

30. Section 101.511 is amended to read as follows:

**§ 101.511 Permissible services.**

(a) Authorizations for stations in the 24 GHz Service will be granted to provide services on a common carrier basis or a non-common carrier basis or on both a common carrier and non-common carrier basis in a single authorization.

(b) Stations may render any kind of digital communications service consistent with the Commission's rules and the regulatory status of the station to provide services on a common carrier or non-common carrier basis.

(c) An applicant or licensee may submit a petition at any time requesting clarification of the regulatory status required to provide a specific communications service.

31. Section 101.521 is amended by adding the words "in the 10.6 GHz band" after the word "frequencies."

32. Section 101.523 is added to read as follows:

**§ 101.523 Service areas.**

(a) The service areas for 24 GHz are Economic Areas (EAs) as defined below. EAs are delineated by the Regional Economic Analysis Division, Bureau of Economic Analysis, U.S. Department of Commerce. The Commerce department organizes the 50 States and the District of Columbia into 172 EAs. Additionally, there are three EA-like areas: Guam and Northern Mariana Islands; Puerto Rico and the U.S. Virgin Islands; and American Samoa and the Gulf of Mexico. A total of 176 authorizations will be issued for the 24 GHz Service by the FCC.

(b) Where an incumbent SMSA license area in the 24 GHz band occupies only a portion of an EA available for application under the competitive bidding rules, the SMSA portion will be excluded from auction and the incumbent licensee will retain the exclusive right to those channels within the SMSA.

33. Section 101.525 is added to read as follows:

**§ 101.525 24 GHz system operations.**

(a) A licensee using the 24 GHz band may construct and operate any number of fixed stations anywhere within the area authorized to serve without prior authorization, except as follows:

(1) A station would be required to be individually licensed if:

(A) international agreements require coordination;

(B) submission of an Environmental Assessment is required under § 1.1307 of this Chapter.

(C) the station would affect the radio quiet zones under § 1.924 of this Chapter.

(2) Any antenna structure that requires notification to the Federal Aviation Administration (FAA) must be registered with the Commission prior to construction under § 17.4 of this Chapter.

(b) Whenever a licensee constructs or makes system changes as described in paragraph (a)(1), the licensee is required to notify the Commission within 30 days of the change under § 1.947 of this chapter and include a statement of the technical parameters of the changed station.



34. Section 101.526 is added to read as follows:

**§ 101.526 License term.**

The license term for stations licensed under this subpart is ten years from the date of license grant or license renewal for incumbent licensees.

35. Section 101.527 is added to read as follows:

**§ 101.527 Construction requirements for 24 GHz operations.**

(a) Each licensee must make a showing of “substantial service” within ten years of its license grant. A “substantial service” assessment will be made at renewal pursuant to the provisions and procedures set forth in § 1.949 of this chapter.

(1) “Substantial service” is a service which is sound, favorable, and substantially above a level of mediocre service which just might minimally warrant renewal during its past license term.

(b) Each licensee must, at a minimum file:

(1) A report, maps and other supporting documents describing its current service in terms of geographic coverage and population served to the Commission. The report must also contain a description of the licensees’ investments in its operations. The report must be labeled as an attachment to the renewal application; and

(2) Copies of all FCC orders finding the licensee to have violated the Communications Act or any FCC rule or policy; and a list of any pending proceedings that relate to any matter described in this paragraph.

(c) Failure to demonstrate that substantial service is being provided in the service area will result in forfeiture of the license, and the licensee will be unable to regain it.

(d) The frequencies associated with incumbent authorizations, licensed on a SMSA basis, that have cancelled automatically or otherwise been recovered by the Commission will automatically revert to the applicable EA licensee.

36. Section 101.529 is added to read as follows:

**§ 101.529 Renewal expectancy criteria for 24 GHz licenses.**

(a) A renewal applicant involved in a renewal proceeding shall receive a preference, commonly referred to as a renewal expectancy, that is the most important factor to be considered in the proceeding as long as the applicant's past record for the relevant license period demonstrates that:

(1) The renewal applicant has provided “substantial service” pursuant to § 101.527; and

(2) The renewal applicant has substantially complied with applicable FCC rules, policies, and the Communications Act of 1934, as amended.

(b) In order to establish its right to a renewal expectancy, a licensee in the 24 GHz service involved in a renewal proceeding must submit a showing explaining why it should receive a renewal expectancy. At a minimum, this showing must include:

(1) A description of how the licensee has complied with the "substantial service" requirement; and

(2) Copies of all FCC orders finding the licensee to have violated the Communications Act or any FCC rule or policy; and a list of any pending proceedings that relate to any matter described in this paragraph.

(c) In making its showing of entitlement to a renewal expectancy, a renewal applicant may claim credit for any system modification applications that were pending on the date it filed its renewal application. Such credit will not be allowed if the modification application is dismissed or denied.

37. Section 101.531 is added to read as follows:

**§ 101.531 Application form and contents.**

(a) Applications for initial authorization of 24 GHz facilities are filed on FCC Form 175 in accordance with Subpart M of this Part, and Subpart Q of Part 1. FCC Form 601 is submitted subsequently either by the winning bidder, if an auction is held to decide among two or more mutually exclusive applications, or, in cases of no mutual exclusivity, by the sole applicant. Applications to amend pending applications and to modify licenses are filed on FCC Form 601.

(b) *Foreign ownership information.* All applicants for 24 GHz licenses must provide the information requested on FCC Form 601 to address all of the eligibility requirements in § 101.7 of this Part. All licensees will keep the information updated.

38. Section 101.533 is added to read as follows:

**§ 101.533 Regulatory status.**

(a) *Initial applications.* An applicant for a 24 GHz license must specify on FCC Form 601 if it is requesting authorization to provide services on a common carrier basis, a non-common carrier basis, or on both a common carrier and non-common carrier basis.

(b) *Amendment of pending applications.* Any pending application may be amended to: (i) change the carrier status requested; or (ii) add to the pending request in order to obtain both common carrier and non-common carrier status in a single license.

(c) *Modification of license.* A licensee may modify a license to: (i) change the carrier status authorized; or (ii) add to the status authorized in order to obtain both common carrier and non-common carrier status in a single license.

39. Section 101.535 is added to read as follows:

**§ 101.535 Geographic partitioning and spectrum aggregation/disaggregation.**

*(a) Eligibility.*

(1) Parties seeking approval for partitioning and disaggregation shall request from the Commission an authorization for partial assignment of a license pursuant to § 1.948 of this chapter.

(2) 24 GHz licensees may apply to the Commission to partition their licensed geographic service areas to eligible entities and are free to determine the portion of their service areas to be partitioned. 24 GHz licensees may aggregate or disaggregate their licensed spectrum at any time following the grant of a license.

(3) Any existing frequency coordination agreements shall convey with the assignment of the geographic area or spectrum, and shall remain in effect unless new agreements are reached.

*(b) Technical standards.*

(1) *Aggregation.* There is no limitation on the amount of spectrum that a 24 GHz licensee may aggregate.

(2) *Partitioning.* In the case of partitioning, applicants and licensees must file FCC Form 603 pursuant to § 1.948 of this chapter and list the partitioned service area on a schedule to the application. The geographic coordinates must be specified in degrees, minutes, and seconds to the nearest second of latitude and longitude and must be based upon the 1983 North American Datum (NAD83).

(3) *Disaggregation.* Spectrum may be disaggregated in any amount. A licensee need not retain a minimum amount of spectrum.

(4) *Combined partitioning and disaggregation.* The Commission will consider requests for partial assignment of licenses that propose combinations of partitioning and disaggregation.

(c) *Unjust enrichment.* 24 GHz licensees that received a bidding credit and partition their licenses or disaggregate their spectrum to entities not meeting the eligibility standards for such a bidding credit, will be subject to the provisions concerning unjust enrichment as set forth in § 1.2111.

(d) *License term.* The license term for a partitioned license area and for disaggregated spectrum shall be the remainder of the original licensee's license term as provided for in § 101.526 of this subpart.

(e) *Construction requirements.* Applications requesting approval for partitioning or disaggregation must include a certification by each party stating that one or both parties will satisfy the construction requirement set forth in § 101.529 of this subpart. Failure by a party to meet its respective construction requirement will result in the automatic cancellation of its license without further Commission action.

40. Section 101.537 is added to read as follows:

**§ 101.537 24 GHz band subject to competitive bidding.**

Mutually exclusive initial applications for licenses in the 24 GHz band are subject to competitive bidding procedures. The procedures set forth in part 1, subpart Q, of this chapter will apply unless otherwise provided in this part.

41. Section 101.538 is added to read as follows:

**§ 101.538 Designated entities.**

*(a) Eligibility for small business provisions.*

(1) A very small business is an entity that, together with its controlling interests and affiliates, has average gross revenues not exceeding \$3 million for the preceding three years.

(2) A small business is an entity that, together with its controlling interests and affiliates, has average gross revenues not exceeding \$15 million for the preceding three years.

(3) An entrepreneur is an entity that, together with its controlling interests and affiliates, has average gross revenues not exceeding \$40 million for the preceding three years.

(4) For purposes of determining whether an entity meets one of the definitions set forth in paragraphs (a)(1), (a)(2), and (a)(3) of this section, the gross revenues of the entity, its controlling interests and affiliates shall be considered on a cumulative basis and aggregated. An applicant seeking status as a very small business, small business, or entrepreneur under this section must disclose on its short- and long-form applications, separately and in the aggregate, the gross revenues of the applicant (or licensee), its controlling interests and affiliates for each of the previous three years.

(5) Persons or entities that hold interests in an applicant (or licensee) that are affiliates of each other or have an identity of interests identified in § 1.2110(b)(4)(iii) of this chapter will be treated as though they were one person or entity and their ownership interests aggregated for purposes of determining an applicant's (or licensee's) compliance with the requirements of this section.

(6) Where an applicant (or licensee) cannot identify controlling interests under the standards set forth in this section, the gross revenues of all interest holders in the applicant, and their affiliates, will be attributable.

(7) A consortium of very small businesses, a consortium of small businesses, or a consortium of entrepreneurs is a conglomerate organization formed as a joint venture between or among mutually independent business firms, each of which individually satisfies the applicable definition in paragraph (a)(1), (a)(2), or (a)(3) of this section. Where an applicant or licensee is a consortium of very small businesses, a consortium of small businesses, or a consortium of entrepreneurs, the gross revenues of each very small business, small business, or entrepreneur shall not be aggregated.

(8) Designated entities must describe on their long-form applications how they satisfy the requirements for eligibility for designated entity status, and must list and summarize on their long-form applications all agreements that affect designated entity status such as partnership agreements, shareholder agreements, management agreements and other agreements, including oral agreements.

establishing, as applicable, *de facto* or *de jure* control of the entity. Such information must be maintained at the licensee's facilities or by its designated agent for the term of the license in order to enable the Commission to audit designated entity eligibility on an ongoing basis.

(b) *Controlling interest.*

(1) For purposes of this section, a controlling interest includes individuals or entities with either *de jure* or *de facto* control of the applicant. *De jure* control is evidenced by holdings of greater than 50 percent of the voting stock of a corporation, or in the case of a partnership, general partnership interests. *De facto* control is determined on a case-by-case basis. An entity must disclose its equity interest and demonstrate at least the following indicia of control to establish that it retains *de facto* control of the applicant:

(i) The entity constitutes or appoints more than 50 percent of the board of directors or management committee;

(ii) The entity has authority to appoint, promote, demote, and fire senior executives that control the day-to-day activities of the licensee; and

(iii) The entity plays an integral role in management decisions.

(2) The following rules apply for the calculation of certain interests.

(i) Ownership interests shall be calculated on a fully diluted basis; all agreements such as warrants, stock options, and convertible debentures will generally be treated as if the rights thereunder already have been fully exercised.

(ii) Partnership and other ownership interests and any stock interest equity, or outstanding stock, or outstanding voting stock shall be attributed as specified below.

(iii) Stock interests held in trust shall be attributed to any person who holds or shares the power to vote such stock, to any person who has the sole power to sell such stock, and to any person who has the right to revoke the trust at will or to replace the trustee at will. If the trustee has a familial, personal, or extra-trust business relationship to the grantor or the beneficiary, the stock interests held in trust will be attributed to the grantor or beneficiary, as appropriate.

(iv) Non-voting stock shall be attributed as an interest in the issuing entity.

(v) Limited partnership interests shall be attributed to limited partners and shall be calculated according to both the percentage of equity paid in and the percentage of distribution of profits and losses.

(vi) Officers and directors of an entity shall be considered to have a controlling interest in the entity. The officers and directors of an entity that controls a licensee or applicant shall be considered to have a controlling interest in the licensee or applicant.

(vii) Ownership interests that are held indirectly by any party through one or more intervening corporations will be determined by successive multiplication of the ownership percentages for each link in the vertical ownership chain and application of the relevant attribution benchmark to the resulting product, except that if the ownership percentage for an interest in any link in the chain exceeds 50 percent or represents actual control, it shall be treated as if it were a 100 percent interest.

(viii) Any person who manages the operations of an applicant or licensee pursuant to a management agreement shall be considered to have a controlling interest in such applicant or licensee if such person, or its affiliate, has authority to make decisions or otherwise engage in practices or activities that determine, or significantly influence:

- (A) The nature or types of services offered by such an applicant or licensee;
- (B) The terms upon which such services are offered; or
- (C) The prices charged for such services.

(ix) Any licensee or its affiliate who enters into a joint marketing arrangement with an applicant or licensee, or its affiliate, shall be considered to have a controlling interest, if such applicant or licensee, or its affiliate, has authority to make decisions or otherwise engage in practices or activities that determine, or significantly influence:

- (A) The nature or types of services offered by such an applicant or licensee;
- (B) The terms upon which such services are offered; or
- (C) The prices charged for such services.

(c) *Bidding credits.* A winning bidder that qualifies as a very small business or a consortium of very small businesses as defined in this section may use the bidding credit specified in § 1.2110(e)(2)(i) of this chapter. A winning bidder that qualifies as a small business or a consortium of small businesses as defined in this section may use the bidding credit specified in § 1.2110(e)(2)(ii) of this chapter. A winning bidder that qualifies as an entrepreneur or a consortium of entrepreneurs as defined in this section may use the bidding credit specified in § 1.2110(e)(2)(iii) of this chapter.

## SEPARATE STATEMENT OF COMMISSIONER SUSAN NESS

*Re: In the Matter of Amendments to Parts 1, 2, 87, and 101 of the Commission's Rules to License Fixed Services at 24 GHz, WT Docket No. 99-327.*

I support our decision today making available spectrum in the 24 GHz band for fixed wireless service. We have attempted to promulgate flexible rules that will permit fixed wireless service providers using this spectrum to compete aggressively with fixed wireless providers using other spectrum and other technologies to provide broadband data and voice services to consumers on a local and nationwide basis.

In this order, we license the 24 GHz band on the basis of 172 Economic Areas ("EAs"), with additional areas covering the United States' territories and possessions. In adopting EAs, we choose a service area size that balances the needs of national service providers and the needs of smaller, regional providers. In addition, since we also used EAs for fixed wireless services in the 39 GHz band, the use of EAs here will apply a consistent licensing scheme providing for fair competition between services in each band.

While I support this decision, I am troubled about the difficulties that rural carriers face in obtaining spectrum to provide fixed wireless services to their communities. A review of the issues raised in this proceeding, and in other contexts, indicates that our current policies may not maximize the potential of wireless technology to serve rural areas. While it may not be appropriate to address these issues in this proceeding, I believe that we need to undertake a more comprehensive review of the ways in which we can encourage the more rapid build-out of rural wireless systems. There are at least three areas of relevant inquiry:

*Service Areas of License.* We need to evaluate our trend to use larger service areas in our licensing processes. Auction of larger service areas limits the ability of smaller providers with rural strategies to obtain spectrum. While the theory behind our partitioning and disaggregation rules<sup>1</sup> would suggest that rural carriers could obtain access to spectrum, there is evidence that in practice this has not happened.<sup>2</sup> We should determine whether our use of larger service areas promotes or inhibits the development of service in rural areas, and whether we can adjust our policies to provide greater incentives for the deployment service in rural areas if we license spectrum using large service areas.

*Substantial Service Requirement.* We have adopted a "substantial service" option in the construction and coverage requirements for various spectrum licensees.<sup>3</sup> This standard is intentionally flexible. The vagueness of the current standard, however, may inhibit the deployment of wireless service to rural areas. We must examine whether licensees satisfying their construction requirements by providing "substantial service" provide service to rural areas, or whether they rely on service in more densely populated areas to justify a claim that they substantially serve their entire licensed area.

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<sup>1</sup> 47 C.F.R. § 101.535.

<sup>2</sup> In particular, as indicated by NTCA, rural telephone companies may not be successful in obtaining partitioned areas because licensees are generally able to meet our performance requirements by only serving urban areas. *See* Amendments to Parts 1, 2, 87 and 101 of the Commission's Rules To License Fixed Services at 24 GHz, *Report and Order*, WT Docket No. 99-327, at ¶ 17.

<sup>3</sup> *See e.g.*, Amendment of the Commission's Rules to Establish New Personal Communications Services, Narrowband PCS, *Second Report and Order and Second Further Notice of Proposed Rulemaking*, GEN Docket No. 90-314, ET Docket No. 92-100 (rel. May 18, 2000); Rule Making to Amend Parts 1, 2, 21 and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, To Reallocate the 29.5-30.0 GHz Frequency Band, To Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, *Fourth Report and Order*, 13 FCC Red 11655 (1998).

*Intermountain Microwave Test.* Under Section 310(d) of the Communications Act, a licensee cannot relinquish or transfer “control” of a wireless license without Commission approval. The factors the Commission uses to determine the locus of *de facto* control were set forth in *Intermountain Microwave*, decided more than thirty-five years ago.<sup>4</sup> The indicia of control in that case were developed in the context of a “mom-and-pop” owner of a stand-alone microwave system. Modern wireless systems and providers, to put it mildly, are often organized quite differently, making the test less useful.

I think it is time we revisited the *Intermountain Microwave* test for *de facto* control, at least as it is applied in the context of Section 310(d). The modern realities of financing and operating telecommunications systems using wireless technology argue for adoption of a test that would permit licensees to extend service throughout their service area by permitting other operators to use spectrum without formal partitioning or disaggregation. We should consider whether and how we could adopt such an approach, and whether it would further speed deployment of wireless services into rural areas.<sup>5</sup>

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<sup>4</sup> 12 F.C.C.2d 559 (1963) (*Intermountain Microwave*). The factors in *Intermountain Microwave* are:

- (1) Does the licensee have unfettered use of all facilities?
- (2) Who controls daily operations?
- (3) Who determines and carries out the policy decisions, including preparing and filing applications with the Commission?
- (4) Who is in charge of employment, supervision, and dismissal of personnel?
- (5) Who is in charge of the payment of financing obligations, including expenses arising out of operation?
- (6) Who receives monies and profits from the operation of the facilities?

See also *Ellis Thompson Corporation*, 10 FCC Rcd 12554 (1995) (*Ellis Thompson*); *Baker Creek Communications, L.P.*, 13 FCC Rcd 18709 (1998).

<sup>5</sup> While we have applied the *Intermountain* factors and permitted licensees to enter into “turn-key” management agreements under which third parties construct and operate communications systems, we require the licensees to engage in certain actions that may needlessly inhibit service to the public to avoid an unauthorized transfer of control. See generally *Ellis Thompson*, *supra* note 4; *Miller Communications, Inc.*, 3 FCC Rcd 6477 (Mob. Serv. Div. 1987); *Jacksonville Cellular Telephone Corp.*, 2 FCC Rcd 6416 (Mob. Serv. Div. 1987), *aff’d*, 3 FCC Rcd 5386 (1988).



**CONCURRING STATEMENT OF  
COMMISSIONER HAROLD FURCHTGOTT-ROTH**

*Re In the Matter of Amendments to Parts 1, 2, 87, and 101 of the Commission's Rules to License Fixed Services at 24 GHz, WT Docket No. 99-327 (rel. July 31, 2000).*

I support today's decision to promptly make available spectrum in the 24 GHz band. The fixed wireless industry has experienced exponential growth in recent years and today's decision will provide still more spectrum for this rapidly developing industry segment. In this context the precise contours of the fixed wireless industry continue to evolve. Unlike PCS, where the majority of service providers have developed national footprints, it is not clear today how fixed wireless service fits into the marketplace. Will it become a largely urban and local service, or will a regional approach prevail? Alternatively, will fixed wireless at 24 GHz become a nationwide service offering? From the Commission's standpoint there is no "right" answer. Instead, the FCC must attempt to develop a flexible spectrum policy that is "business plan neutral."

Accordingly, I am intrigued by the prospect of utilizing smaller service areas for some of these licenses.<sup>1</sup> The size of the initial license areas should not matter. Our disaggregation and partitioning rules should facilitate a secondary market that permits licensees to slice and dice spectrum for the highest-valued use.<sup>2</sup> However, our partitioning and disaggregation rules have a mixed record and appear to create substantial transaction costs. These apparent difficulties create increased pressure on the Commission to craft initial license allocations that respond to market demand. Here, numerous parties requested smaller service areas. In response I would have considered subdividing one or two of the five licenses into smaller licensing units in order to meet this apparent demand.<sup>3</sup> Smaller license areas may also facilitate the deployment of competitive services to underserved areas and permit the development of business plans based on a more localized strategy. Going forward, rather than assuming all services are going to be "national," I believe it is important that we closely examine our initial license allocation strategy in each service to permit a whole range of business plans to audition in the marketplace.

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<sup>1</sup> One reason for some reluctance to adopt smaller service areas in this band is that we failed to pursue this approach in the recent 39 GHz band auctions. In light of the highly competitive relationship between the national players in this band and 39 GHz, it may not be fair to subject only the 24 GHz band to these smaller license segments. However, other services that compete with these bands are subject to smaller license areas.

<sup>2</sup> See 47 C.F.R. § 101.1323; *Policy Statement: In the Matter of Principles for Reallocation of Spectrum To Encourage the Development of Telecommunications Technologies for the New Millennium*, 14 FCC Red 19868, FCC 99-354, ¶¶ 12-13 (rel. Nov. 22, 1999); Federal Communications Commission Public Forum on Facilitating the Development of Secondary Markets for Radio Spectrum, Partitioning and Disaggregation (May 31, 2000), available at <[http://www.fcc.gov/Bureaus/Engineering\\_Technology/Public\\_Notices/2000/da001139.html](http://www.fcc.gov/Bureaus/Engineering_Technology/Public_Notices/2000/da001139.html)>.

<sup>3</sup> For businesses with more regional or national strategies, smaller service areas should only slightly increase the transaction costs of acquiring these licenses at auction. (In this regard, the use of combinatorial bidding will enable the FCC more freely to utilize smaller license areas by reducing the transaction costs of aggregation and maximizing the cumulative value of the licenses.) In evaluating our overall spectrum management goals, the small increases in transaction costs inherent in smaller license areas must be balanced against the apparently substantial reduction in transaction costs created by eliminating the need for smaller players to acquire their spectrum from the secondary market.

**CONCURRING STATEMENT OF COMMISSIONER GLORIA TRISTANI**

*Re: Amendments of Parts 1, 2, 87 and 101 of the Commission's Rules To License Fixed Services at 24 GHz, WT Docket No. 99-327 (rel. July 31, 2000)*

While I support this decision and look forward to the upcoming licensing of more fixed wireless spectrum in the 24 GHz band, I would have preferred to take further steps that could serve to foster fixed wireless build-out in America's smaller cities and rural areas. In particular, I would have licensed one or two of the five 24 GHz license blocks in smaller geographic areas.

The record here reflects several parties' conviction that spectrum in smaller cities and rural areas may lay fallow when bundled in geographic licenses with urban areas. Simply put, a winning bidder today may concentrate its investment and build-out in dense urban areas despite holding a license that covers smaller cities and rural areas. While our rules allow for partitioning and disaggregation of spectrum, this policy has produced mixed results at best. By making one or two of the five licenses available in smaller geographic blocks, we could have offered an opportunity for providers with a small city/rural focus to bid at auction for the spectrum necessary for their business plans. A fixed wireless offering, after all, need not have a regional or national strategy in order to succeed. At the same time, providers with a regional or nationwide business strategy could aggregate these licenses for a larger footprint.

The fixed wireless industry is a wonderful example of intermodal competition. However, I would have preferred one extra step to promote widespread deployment. Nonetheless, I believe fixed wireless providers offer great promise as competitive entrants in large urban settings and beyond and I support this item.